



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/470,615	12/22/1999	MASAO KAWAGUCHI	49375(868)	6371
21874	7590	09/17/2004		
EDWARDS & ANGELL, LLP P.O. BOX 55874 BOSTON, MA 02205			EXAMINER BUEKER, RICHARD R	
			ART UNIT 1763	PAPER NUMBER

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/470,615	KAWAGUCHI, MASAO	
	Examiner	Art Unit	
	Richard Bueker	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claims 2, 16, 17, 19 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 2 has been amended to recite that the claimed moving means moves the claimed support members "relative to the substrate bearing surface; and wherein the moving means . . . causes each of the plurality of support members to rotationally move on the stage about a longitudinal axis of each support member". Claims 16, 17, 19 and 20 have the same or analogous language. The claimed support members are labeled 23 and 24 in Figs. 2 and 3. This language makes clear that the recited "moving means" refers to the actuator 27 illustrated in Fig. 3, because this is the only moving means disclosed in applicant's specification "for moving the support members relative to the substrate bearing surface" as now recited. It is noted, however, that the specification as originally filed did not describe the support members 23 and 24 as being able to "rotationally move on the stage about a longitudinal axis of each support member". The specification at page 3, lines 12-17 and page 6, lines 13-18 does state that the support members 23 and 24 are "rotationally moved on the stage", but the specification does not disclose that the rotation is "about a longitudinal axis of each support member". The only disclosure in the specification relating to rotation about a longitudinal axis is in the sentence bridging pages 9 and 10 of the specification, and this sentence is referring to

Art Unit: 1763

rotation of shaft member 22 about its longitudinal axis. While rotating shaft 22 is a "moving means", it does not move the support members 23 and 24 "relative to the substrate bearing surface" of the stage in the manner now required by these claims. Therefore, claims 2, 16, 17, 19 and 20 as now amended are considered to contain new matter.

Claims 1-8 and 13-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mears. Mears discloses a wafer holder comprising a stage for holding the wafer, a shaft member for angularly displacing the stage that is bearing the substrate to a position where the wafer is held vertically, a plurality of support members provided so as to protrude from the stage surface for supporting an end of the wafer while the wafer is held vertically, and means for moving the support members. The ion implantation apparatus of Mears is inherently a film forming apparatus, because the dictionary definition of "film" is "an exceedingly thin layer", and Mears apparatus creates a thin implanted surface layer in a treated wafer. The wafer holder of Mears is at least inherently capable of holding a wafer in a coating apparatus, and it is noted that the limitation of "which mechanism is used in a film forming apparatus" is a recitation of intended use that does not limit the claimed substrate holder to use only in the recited coating apparatus.

The 35 USC 112 rejections stated in the previous office action have been removed in view of applicant's most recent amendments.

Art Unit: 1763

Applicant has argued that the newly added limitation of “wherein said plurality of support members are arranged so as to consist essentially of one group of support members” that extend only along and support only one side of the substrate does not read on the arrangement of support members disclosed by Mears, because Mears’ support members extend around and support all sides of Mears’ substrate. It is noted, however, that applicants’ claims recite (see claim 1, for example): “A mechanism for supporting a substrate . . . **comprising**: . . . a plurality of support members . . . wherein said plurality of support members are arranged to consist essentially of one group of support members” (emphasis added). In this claim language, the phrase “consisting essentially of” modifies the recited “a plurality of support members”. It is noted, however, that by virtue of the “comprising” language use at the beginning of claim 1, this claim does not exclude the presence of more support members arranged in other locations with respect to the substrate, in addition to the recited “a plurality of support members”. Mears’ support members do include “one group of support members” labeled f10 and f11 (see Figs. 5 and 6 of Mears) , for example, that support only one end surface of the substrate, where said one end surface is the surface which faces downwards when the stage is displaced to the film forming position. By virtue of the “comprising” language used in applicant’s claims (see claim 1, line 2), the claims do not exclude the presence of an additional plurality of support members such as those labeled f1 to f9 and f12 to f14 in Mears’ Figs. 5 and 6.

Applicant has argued that the use of the word “comprising”, while making the claim open does not mean that the word can be used to eliminate language (e.g., only, consisting essentially of) from a claim or to read language out of a claim. It is noted, however, that the “consist essentially of” language is not being ‘read out of the claim’. As presently written, the “consist essentially of” language found at claim 1, lines 11 and 12 modifies the “a plurality of support members” found in line 9 of claim 1. It is noted, however, that the recitation of “a plurality of support members” as in claim 9, line 9, does not exclude the presence of further support members in other locations around the substrate (such as the other support members taught by Mears) in addition to the recited “a plurality of support members”. This is because the “comprising” language of applicant’s claim 1 opens the claim and allows for the inclusion of other structure in addition to the particular structure specifically recited in the claim.

Applicant has argued that the claimed structure is nowhere disclosed in Mears. It is noted, however, that the claimed structure of “a plurality of support members . . . wherein the plurality of support members are arranged so as to consist essentially of one group of support members that extend only along one side of the substrate . . .” is disclosed by Mears. Figs. 5 and 6 of Mears illustrates a plurality of support members f10 and f11 wherein that plurality of support members are arranged so as to consist essentially of one group of support members that extend only along one side of the substrate, etc. The fact that Mears discloses a plurality of other support members in addition to support member f10 and f11 does not change the fact that support members f10 and f11

Art Unit: 1763

are “one group of support members” that have all of the features of applicant’s claimed “one group of support members”.

Applicant has argued that the claimed arrangement of support members would be physically impossible in Mears’ apparatus, because Mears’ apparatus is intended to rotate, while applicant’s apparatus does not rotate. It is noted, however, that applicant’s claims do not exclude rotating the substrate, just as applicant’s claims do not exclude the presence of more support members located on all sides of the substrate. Applicant’s claims only recite an apparatus comprising one particular group of support members which are movable toward or away from the substrate. Mears discloses this.

Applicant has argued that “an assertion that Mears could be so modified must fail, because under patent law, . . . any asserted modification of an invention disclosed in a reference CANNOT destroy the intent, purpose or function of the disclosed invention”. It is noted, however, that the rejection is not based on a modification of Mears’ apparatus that requires the elimination of all but two of Mears’ support members. Instead, the rejection is based on the fact that Mears’ apparatus includes all of the support member features that are recited in applicants’ claims as presently written.

Applicant has also argued that the previous office action asserted that the moving means limitations recited in claims 1, 2 and 17 broadly read on a means disclosed in Mears that moves the apparatus or rotatable disk 2 on which the finger or support members are located, and applicant has argued that this assertion is inconsistent with 35 U.S.C. 112, sixth paragraph. It is noted,

Art Unit: 1763

however, that applicant's specification also discloses "moving means" for his apparatus other than the actuator 27 of Fig. 3. The shaft member 22 which rotates about its own longitudinal axis is also a moving means that moves the apparatus or stage on which the finger or support members 23 and 24 are located. This is analogous to the rotation about Mears' axis A illustrated in Fig. 1 of Mears. The rotation of applicant's shaft member 22 about its own longitudinal axis is the only rotational moving means that is disclosed in applicant's specification as being rotated about its own longitudinal axis. Therefore it is reasonable to consider that this particular disclosed rotational moving means might be the rotational moving means recited in applicant's previously presented claims.

Applicant has argued that "Mears nowhere suggests or teaches a moving means that is operably coupled to the support members of the one group of support members and a moving means that causes each of the plurality of support members of the one group to rotate about the longitudinal axis of each support member". As pointed out in the new matter rejection stated above, applicant's specification as originally filed did not disclose a moving means for causing the support members 23 and 24 of Figs. 2 and 3 to rotate about their longitudinal axes.

Regarding claim 17, the phrase "move in one direction" (in part (a) of claim 17) can refer to a rotational direction, such as a clockwise direction or counterclockwise direction. The moving means of Mears moves each support member in one such direction.

Art Unit: 1763

Regarding claim 13, each of the plurality of support members f10 and f11 of Mears can “move in one direction” such as a rotational direction. The added limitation of “with respect to a plane in which lies the longitudinal axis of each of the support members” does not distinguish over Mears because the movement in one direction will inherently be “with respect to” a fixed plane. Also, applicant has argued that claim 13 recites that “all of the support members of the one group move in one direction”, while claim 13 actually recites that “each of the plurality of support members” move in one direction. Reciting that ‘each support member moves in one direction’ does not equate to ‘all the support members move in the same direction’. Also, Mears teaches (col. 8, lines 25-44) that his resilient spring member 41 can be in the shape of a square when the shape of the workpiece is square, and that the resilient member 41 can be composed of a plurality of independent sections. When the resilient member 41 is square as suggested by Mears, plural support members (f10 and f11 for example) will move in parallel.

Regarding claims 14, 15 and 17, the phrase “a direction generally perpendicular to” is broad enough to include a direction that is almost perpendicular. It is noted that “general” is defined as “approximate as opposed to strictly accurate”. The portion of Mears’ support members that press against the substrate move a small distance in a direction that is generally perpendicular to the edge of the substrate or the longitudinal axis of the support member.

Regarding claim 5, Mears teaches (col.8, lines 31-38) that plural independent actuators can be provided as a substitute for a single actuator. It is noted also that applicant’s disclosure (see Fig. 3 and page 10, line 25 to page 11,

Art Unit: 1763

line 13) with respect to his actuator 27 is only schematic in nature and does not give specific details of how the actuator operates.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

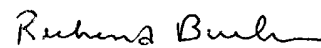
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Bueker whose telephone number is (571) 272-1431. The examiner can normally be reached on 9 AM - 5:30 PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (571) 272-1439. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1763

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Richard Bueker
Primary Examiner
Art Unit 1763